AMERICAN MUSEUM NOVITATES

Number 701 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — March 12, 1934

56.81, 4 : 091

THE DESLONGCHAMPS PUBLICATIONS ON FOSSIL CROCODILES[1]

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I. INTRODUCTION

In connection with a detailed examination of the literature on fossil crocodiles for monographic purposes, we have noted many references to publications bearing the name Deslongchamps, and that considerable confusion has existed concerning them. It is the purpose of this article to attempt to clear up uncertainties regarding many of these publications.

To accomplish our purpose it is necessary to note the fact that there were two men surnamed Deslongchamps who studied and described fossil crocodiles. They were Jacques-Amand Eudes-Deslongchamps who lived from 1794 to January 18, 1867, and his son called either Eugene Deslongchamps or Eugene Eudes-Deslongchamps who was born in 1830 and died in 1889. We shall consider first the work of the father.

II. JACQUES-AMAND EUDES-DESLONGCHAMPS

The first article on fossil crocodiles published by J. A. Eudes-Deslongchamps that we have been able to find appeared in Volume XIII of *L'Institut* in 1845.[2] However, this date does not mark the beginning of his interest in fossil crocodiles, for in his description of *Teleosaurus geoffroyi* he mentions the fact that he obtained the material under discussion in 1819. Then, in the discussion of *Steneosaurus megistorhynchus*, Eugene Deslongchamps mentions the fact that his father corresponded with E. Geoffroy St.-Hilaire concerning this fossil. Since Geoffroy St.-Hilaire died in 1844, this correspondence must have taken place previous to that date. The third evidence that J. A. Eudes-Deslongchamps' interest in fossil crocodiles antedated the article in *L'Institut* referred to above, is the mention of an article on the fossil later named *Metriorhynchus blainvillei*, which Eugene Deslongchamps states was published in the *Revue de Caen* in 1844.[3]

[1] Contributions to the Osteology, Affinities, and Distribution of the Crocodilia, No. 28.

[2] 'Crocodile fossile découvert à Sannerville,' L'Institut, XIII, No. 580, pp. 53–56.

[3] Since this periodical cannot be obtained in the United States, we must provisionally accept this statement until we are able to verify it by consulting the copy in the Bibliothèque Municipale de Caen.

In 1845, we find Jacques-Amand Eudes-Deslongchamps engaged in a debate with H. G. Bronn concerning the position of the internal nares of the teleosaurs. J. A. Eudes-Deslongchamps upheld the views of G. Cuvier and E. Geoffroy St.-Hilaire and stated that the internal nares of the teleosaurs were slightly back of the orbits, and that the orifice in the median line of the base of the cranium was a nerve or vascular foramen. Bronn,[1] on the other hand, believed that this orifice was the internal nares and that the fossa which Cuvier designated as the internal nares was a fracture.

Deslongchamps was supported in the debate by Sir Richard Owen, and Bronn's views were upheld by H. D. de Blainville. However, in a letter published in 1853[2] de Blainville retracted his statement supporting Bronn, and admitted that Deslongchamps was correct in his beliefs concerning the internal nares. In the course of the debate, Deslongchamps described a fossil head found at Sannerville in which the internal nares were clearly discernible. This specimen was later named *Teleosaurus blainvillei* by J. A. Eudes-Deslongchamps, and was subsequently referred to the genus *Metriorhynchus* by his son.

In 1864, J. A. Eudes-Deslongchamps published his outstanding contribution to the knowledge of fossil crocodiles, his 'Mémoires sur les Téléosauriens de l'Époque Jurassique du Département du Calvados'.[3] This memoir contains a long comparison between the skeletal characters of the teleosaurs and the crocodiles, and also a complete description of *Teleosaurus temporalis* (de Blainville) and the original descriptions of two new species of fossil crocodiles. In 1865, he discussed[4] plans for the second part of the memoir on teleosaurs, but this remained in manuscript form until after his death. Meanwhile, he published several articles establishing new species of crocodiles in the Bulletin of the Linnaean Society of Normandy.

On January 18, 1867, Jacques-Amand Eudes-Deslongchamps died, leaving in manuscript form many notes on his proposed 'Prodrôme' on fossil crocodiles. These notes were revised and edited by his son, to whom we must now turn our attention.

III. EUGENE EUDES-DESLONGCHAMPS

Eugene Eudes-Deslongchamps did not describe or discuss any fossil crocodiles until after his father's death, with the exception of a very brief account of the fossil crocodiles from the Lower Jurassic of Normandy

[1] For the articles by Bronn, see bibliography.
[2] 1853, 'Lettres sur les Crocodiles Vivants et Fossiles,' Mém. Soc. Linn. Norm., IX, pp. 109–120.
[3] 1864, Mém. Soc. Linn. Norm., XIII, pp. 1–138.
[4] 1865, Bull. Soc. Linn. Norm., IX, pp. 209–210.

which appeared in 1865 in his 'Études sur les Étages Jurassiques Inférieurs de la Normandie.'[1]

After 1867, however, Eugene Deslongchamps continued the research that his father had started and wrote several articles on the subject of fossil crocodiles. These articles at first appeared individually and then were printed collectively as part 11 of the 'Notes Paléontologiques.'

In these articles Eugene Deslongchamps redescribed the species of *Teleosaurus* which his father had established, and referred some of these species to other genera. In addition he established several new species of his own.

The following table is a synopsis of the treatment of both father and son.

J. A. Eudes-Deslongchamps	Eugene Eudes-Deslongchamps
Teleosaurus gladius, n. sp.	
Teleosaurus geoffroyi, n. sp.	
Teleosaurus oplites, n. sp.	*Steneosaurus oplites*
Teleosaurus atelestatus, n. sp.	*Steneosaurus atelestatus*
Teleosaurus megistorhynchus, n. sp.	*Steneosaurus megistorhynchus*
Teleosaurus boutillieri, n. sp.	*Steneosaurus boutilieri*
Teleosaurus edwardsi, n. sp.	*Steneosaurus edwardsi*
	Steneosaurus roissyi, n. sp.
	Steneosaurus blumembachi, n. sp.
	Teleidosaurus, n.g.
Teleosaurus calvadosii, n. sp.	*Teleidosaurus calvadosi*
	Teleidosaurus joberti, n. sp.
Teleosaurus blainvillei, n. sp.	*Metriorhynchus blainvillei*
	Metriorhynchus moreli, n. sp.
Teleosaurus brachyrhynchus, n. sp.	*Metriorhynchus brachyrhynchus*
Teleosaurus hastifer, n. sp.	*Metriorhynchus hastifer*
	Metriorhynchus ? incertus, n. sp.

Besides treating with the above forms, Eugene Eudes-Deslongchamps discussed or figured several forms which had been established by other people. These are as follows:

Teleosaurus Geoffroy St.-Hilaire.
  Teleosaurus cadomensis Geoffroy St.-Hilaire.
Steneosaurus Geoffroy St.-Hilaire.
Pelagosaurus Bronn.
  Pelagosaurus typus Bronn.
Metriorhynchus Meyer
  Metriorhynchus superciliosus = *Crocodilus superciliosus* de Blainville.

[1]Mém. Soc. Linn. de Norm., XIV, pp. 208–229, part 2, Chapter I, section 2, for the reference to crocodiles.

In addition to the articles which have already been discussed, Eugene Eudes-Deslongchamps wrote two other articles on fossil crocodiles. In one, which appeared in Lennier's paper entitled 'Études Géologiques et Paléontologiques sur l'Embouchure de la Seine et les Falaises de la Haute-Normandie,'[1] he discussed *Metriorhynhcus hastifer* and *Metriorhynchus ? incertus*. The other, entitled 'Le Jura Normand,' has not yet been seen by the authors.

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3. 1845. '*Mystriosaurus*. Sur deux nouveaux squelettes de *Mystriosaurus* provenant du lias de Wurtemberg.' L'Institut, XIII, No. 596, p. 196.

4. 1845. 'Sur les *Mystriosaurus* et *Teleosaurus*.' L'Institut, XIII, No. 599, p. 228.

5. 1845. An abstract of the article by Eudes-Deslongchamps, entitled 'Über die Teleosaurier von Caen.' Neues Jahrbuch, pp. 498–501.

BRONN, H. G. AND KAUP, J. J. 1841. 'Abhandlungen über die Gavial-Artigen Reptilien der Lias-Formation,' 47 pp., 11 plates.

EUDES-DESLONGCHAMPS, EUGENE. 1. 1865. 'Études sur les Étages Jurassiques Inférieurs de la Normandie.' Mém. Soc. Linn. de Norm. (Années 1863–1864), XIV, pp. 1–292. [On pages 208–229 of this article is a brief account of the fossil Crocodiles found in the locality under discussion.]

2. 1868. 'Note sur le Squelette et la Restauration du *Teleosaurus cadomensis*.' Bull. Soc. Linn. de Norm. (Année 1867), Ser. 2, II, pp. 381–473. [Description of *Teleosaurus cadomensis*, *Steneosaurus oplites*, *St. atelestatus*, *St. larteti*, *St. megistorhynchus*, *St. boutilieri*, *St. edwardsi*, *St. roissyi*, *St. blumembachi*.] This article also appeared in 'Notes Paléontologiques,' Part XI, pp. 163–256.

3. 1869. 'Plan d'un Prodrôme des Téléosauriens de la Normandie.' Bull. Soc. Linn. de Norm. (Année 1868), Ser. 2, III, pp. 2–3. [The principal divisions of the Prodrôme will be for the discussion of the families Teleosauriens, Streptospondyliens, and Crocodiliens.]

4. 1869. 'Mémoire sur les Téléosauriens de la Normandie.' Bull. Soc. Linn. de Norm. (Année 1868), Ser. 2, III, pp. 124–221. [Descriptions of *Pelagosaurus typus*, *Teleidosaurus calvadosi*, *T. joberti*, *Metriorhynchus blainvillei*, *M. superciliosus*, *M. brachyrhynchus*, *M. hastifer* and *M.? incertus*.] This article also appeared in 'Notes Paléontologiques,' Part XI, pp. 256–354.

[1] pp. 45–55.

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8. 1870. 'Distribution Stratigraphique des diverses Espèces de Téléosauriens jusqu'ici Observées en France, en Angleterre et en Allemagne.' Bull. Soc. Géol. de France (Années 1869–1870), Ser. 2, XXVII, p. 349. [A table showing the type locality and level of 28 Teleosaurs.]

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   pp. 95–162, published in September, 1867.
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   pp. 307–354, published in December, 1869.

   pp. 95–108 almost exactly reprinted in title 6 above.
   pp. 108–137 expanded into title 7 above.
   pp. 139–162 reprinted in title 13 below.
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   pp. 256–354 reprinted in title 4 above.

10. In, Lennier, G., date unknown, 'Études Géologiques et Paléontologiques sur l'Embouchure de la Seine et les Falaises de la Haute-Normandie.' Part I, 'Terrain Jurassique,' Chapter 4, 'Catalogue raisonné des Espèces fossile recueillies dans le Kimmeridge,' pp. 36–55, 'Ordre des Crocodiliens,' Pls. VIII–XI. [This article contains a discussion of *Streptospondylus cuvieri* (Meyer), *Metriorhynchus hastifer*, and *M.? incertus*.]

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3. 1849. 'Sur une Tête de Crocodile Fossile.' Mém. Soc. Linn. de Norm. (Années 1843–1848), VIII, pp. xxxi, xxxii. An abstract of article 1 above.

4. 1864. 'Mémoires sur les Téléosauriens de l'Époque Jurassique du Département du Calvados.' Mém. Soc. Linn. de Norm. (Années 1862–1863), XIII, pp. 1–138, Pls. i–ix. [Contains a comparison between the skeletal characters of the teleosaurs and crocodiles, a description of *Teleosaurus temporalis* (de Blainville) and the original descriptions of *Teleosaurus atelestatus* and *T. oplites*.]

5. 1864. 'Observations sur une tête de *Teleosaurus* trouvée dans le callovien du Mesnil de Bavent par M. Moriere.' Bull. Soc. Linn. de Norm. (Années 1862–1863), VIII, pp. 287–288. [Description of an unnamed teleosaur skull to which the name *Teleosaurus brachyrhynchus* was later given.]

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III. Reply to de Blainville's letter by Eudes-Deslongchamps, pp. 121–131.

IV. Note by Eudes-Deslongchamps, pp. 132–138. [A discussion of a veined sinus on the exterior of the skull of recent crocodiles.]

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Pl. XI in 'Notes Paléontologiques,' XI, is identical with Pl. II in Bull. Soc. Géol. de France, Ser. 2, XXVII, and with Pl. XI in Bull. Soc. Linn. de Norm., Ser. 2, I.

Pl. XII, in 'Notes Paléontologiques,' XI, is identical with Pl. III in Bull. Soc. Géol. de France, Ser. 2, XXVII, and with Pl. XII in Bull. Soc. Linn. de Norm., Ser. 2, I.

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